Uniform Federal Policy for Quality Assurance Project Plans

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Introduction

Uniform Federal Policy for Implementing Environmental Quality Systems (UFP/QAPP)

- Prepared by the Intergovernmental Data Quality Task Force (IDQTF)
- Provides project-level guidance and procedures:
  - Using the Systematic Planning Process (SPP)
  - Applying a Graded Approach
  - Completing QAPP worksheets

Introduction

Uniform Federal Policy for Quality Assurance Project Plans

- Provides project-specific instructions based on ANSI/ASQC E4 Part B
- Developed as a joint initiative between the U.S. Environmental Protection Agency (EPA), the Department of Defense (DoD), and the Department of Energy (DOE)
- Companion document to the IDQTF's *Uniform Federal Policy for Implementing Environmental Quality Systems*
- Designed to be used to create both Project Specific and Generic Program QAPPs

UFP/QAPP Outline

1.0 INTRODUCTION

2.0 PROJECT MANAGEMENT ELEMENTS AND OBJECTIVES

3.0 MEASUREMENT AND DATA ACQUISITION

4.0 ASSESSMENT AND OVERSIGHT ELEMENTS

5.0 DATA VERIFICATION/VALIDATION AND USABILITY ELEMENTS

UFP/QAPP Introduction

- Systematic Planning Process
  - Outlines how to complete process
- Graded Approach
  - the degree of documentation, level of effort, and detail will vary based on the complexity and cost of the project

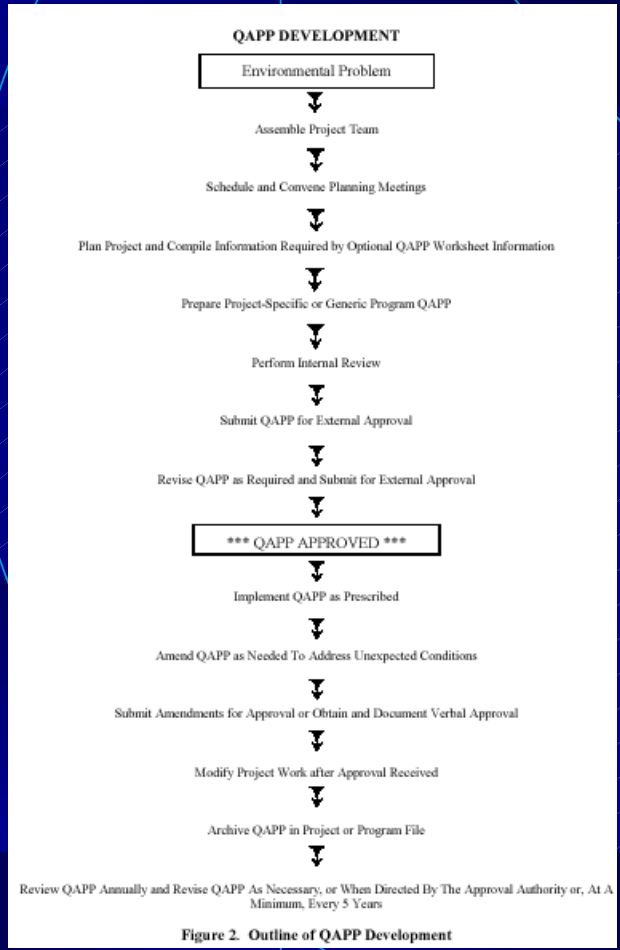
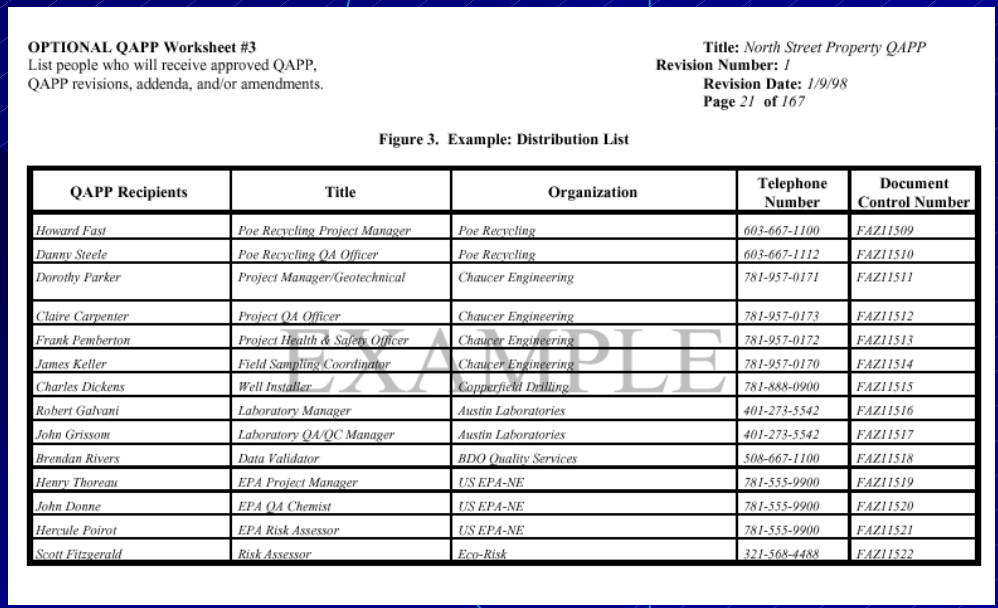


Figure 2. Outline of QAPP Development

Project Management Elements and Objectives

- Title and Approval Page
- Table of Contents and Document Format
- Distribution List and Project Personnel Sign-Off Sheet
- Project Organization
- Project Planning/Problem Definition
- Project Description and Schedule



OPTIONAL QAPP Worksheet #3
List people who will receive approved QAPP, QAPP revisions, addenda, and/or amendments.

Title: *North Street Property QAPP*
Revision Number: *1*
Revision Date: *1/9/98*
Page *21* **of** *167*

Figure 3. Example: Distribution List

QAPP Recipients	Title	Organization	Telephone Number	Document Control Number
Howard Fast	*Poe Recycling Project Manager*	*Poe Recycling*	*603-667-1100*	*FAZ11509*
Danny Steele	*Poe Recycling QA Officer*	*Poe Recycling*	*603-667-1112*	*FAZ11510*
Dorothy Parker	*Project Manager/Geotechnical*	*Chaucer Engineering*	*781-957-0171*	*FAZ11511*
Claire Carpenter	*Project QA Officer*	*Chaucer Engineering*	*781-957-0173*	*FAZ11512*
Frank Pemberton	*Project Health & Safety Officer*	*Chaucer Engineering*	*781-957-0172*	*FAZ11513*
James Keller	*Field Sampling Coordinator*	*Chaucer Engineering*	*781-957-0170*	*FAZ11514*
Charles Dickens	*Well Installer*	*Copperfield Drilling*	*781-888-0900*	*FAZ11515*
Robert Galvani	*Laboratory Manager*	*Austin Laboratories*	*401-273-5542*	*FAZ11516*
John Grissom	*Laboratory QA/QC Manager*	*Austin Laboratories*	*401-273-5542*	*FAZ11517*
Brendan Rivers	*Data Validator*	*BDO Quality Services*	*508-667-1100*	*FAZ11518*
Henry Thoreau	*EPA Project Manager*	*US EPA-NE*	*781-555-9900*	*FAZ11519*
John Donne	*EPA QA Chemist*	*US EPA-NE*	*781-555-9900*	*FAZ11520*
Hercule Poirot	*EPA Risk Assessor*	*US EPA-NE*	*781-555-9900*	*FAZ11521*
Scott Fitzgerald	*Risk Assessor*	*Eco-Risk*	*321-568-4488*	*FAZ11522*

Project Management Elements and Objectives (cont'd)

- Project Quality Objectives and Measurement Performance Criteria

Figure 11. Example: Measurement Performance Criteria Table

Medium/Matrix	*Ground Water*
Analytical Parameter	*VOA*
Concentration Level	*Low*

Sampling Procedure	Analytical Method/SOP	Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
S-1	*L-1*	*Precision-Overall*	*RPD≤ 30% when VOC detects for both field duplicate samples are ≥ QL. RPD ≤ 40% when gaseous VOC detects for both field duplicate samples are ≥ QL.*	*Field Duplicates*	*S+A*
		Precision-Lab	*RPD≤ 20% when VOC detects for both laboratory duplicate samples are ≥ QL. RPD ≤ 30% when gaseous VOC detects for both laboratory duplicate samples are ≥ QL.*	*Matrix Spike/Matrix Spike Duplicates*	*A*
		Accuracy/bias	*±20% VOCs except volatile gases ±40%*	*Matrix Spike/Matrix Spike Duplicates*	*A*
		Accuracy/bias	*No false negatives, no false positives, quantitation within warning limits (±2δ)*	*Single Blind PES*	*A*
		Accuracy/bias-Contamination	*No target compounds ≥ QL*	*Equipment Blanks, Trip Blanks, Method Blanks & Instrument Blanks*	*S+A*
		Sensitivity	*±40% @ QL*	*Laboratory Fortified Blank @ QL*	*A*

[1]Data Quality Indicators (a.k.a. PARCC parameters, i.e., precision, accuracy/bias, sensitivity, data completeness, comparability)

Measurement and Data Acquisition

- Sampling Tasks
  - Sample handling and custody
- Analysis Tasks-Analytical Method requirements
- Quality Control Requirements
- Data Acquisition Requirements
- Data Management Tasks
  - Documentation, Records, and Data Management

Figure 14. Example: Field Sampling Equipment Calibration Table

Equipment	Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Type S Pitot	*40 CFR Part 60, Appendix A, Method 2*	*Every 6 months*	*As per 40 CFR Part 60, Appendix A, Method 2*	*Replace if criteria exceeded*	*Jane Airway*	*S-10*

EXAMPLE

* Specify appropriate reference letter/number from the Project Sampling SOP Reference Table (For example, OPTIONAL QAPP Worksheet #13).

Assessment and Oversight Elements

- Assessments and Response Actions
  - Planned Assessments
  - Assessment Findings and Corrective Action Responses
  - Additional QAPP Nonconformances
- QA Management Reports

Figure 27b. Example: Project Assessment Table

Assessment Type	Frequency	Internal or External	Organization Performing Assessment	Person(s) Responsible for Performing Assessment, Title and Organizational Affiliation	Person(s) Responsible for Responding to Assessment Findings, Title and Organizational Affiliation	Person(s) Responsible for Identifying and Implementing Corrective Actions (CA), Title and Organizational Affiliation	Person(s) Responsible for Monitoring Effectiveness of CA, Title and Organizational Affiliation
Field Sampling Technical Systems Audit	*1/At startup of sampling*	*Internal*	*Chaucer Engineering*	*Claire Carpenter, Project QA Officer, Chaucer Engineering*	*James Keller, Field Sampling Coordinator, Chaucer Engineering*	*James Keller, Field Sampling Coordinator, Chaucer Engineering*	*Claire Carpenter, Project QA Officer, Chaucer Engineering*
Fixed Laboratory Technical Systems Audit	*1/Prior to sample receipt*	*External*	*Chaucer Engineering*	*Claire Carpenter, Project QA Officer, Chaucer Engineering*	*John Grisson, Laboratory QA/QC Manager, Austin Laboratories*	*John Grisson, Laboratory QA/QC Manager, Austin Laboratories*	*John Grisson, Laboratory QA/QC Manager, Austin Laboratories*

EXAMPLE

Data Verification/Validation and Usability

- Data Verification and Validation Requirements
- Procedures
- Data Usability and Reconciliation with Data Quality Objectives

Figure 29a. Example: Data Verification/Validation Process Table

Verification/ Validation Task	Description	I/E	Responsible for Verification/ Validation (Name, Organization)
COC & shipping forms	*Chain-of-custody forms and shipping documentation will be reviewed internally upon their completion and verified against the packed sample coolers they represent. When everything checks out, the shippers signature on the COC will be is initialed by the reviewer, a copy of the COC will be retained in the site file, and the original and remaining copies will be taped inside the cooler for shipment. See COC SOP for further details.*	*I*	*Cole Lector Jewel Engineering*
Audit Reports	*Upon report completion, a copy of all audit reports will be placed in the site file. If corrective actions are required, a copy of the documented corrective action taken will be attached to the appropriate audit report in the site file. At the beginning of each week, and at the completion of the site work, site file audit reports will be reviewed internally to ensure that all appropriate corrective actions have been taken and that corrective action reports are attached. If corrective actions have not been taken, the site manager will be notified to ensure action is taken.*	*I*	*A. K. DeBeers Jewel Engineering*
Laboratory Data	*All laboratory data packages will be verified internally by the laboratory performing the work for completeness prior to submittal. The laboratory shall complete DC-2 forms documenting the organization and complete contents of each data package.* *All received data packages will be verified externally according to the data validation procedures specified in Figure 29b.*	*I* *E*	*Jasper Sanquin Emerald Environmental Lab* *G. R. Flawless Validation Services*
DV Reports	*All data validation reports received from the data validators will be verified externally for completeness. One out of every 10 samples will be verified against the original laboratory results to check for transcription errors.*	*E*	*Manny Facets Jewel Engineering*

Data Verification/Validation and Usability (revisions)

- Data Verification/Validation and Usability includes:
  - Field sampling activities
  - Comparison with data quality objectives identified in the QAPP
  - Assessment of data usability in the context of decisions that need to be made
- Outlines considerations and potential options for streamlining data review process

Evaluation of UFP/QAPP

U.S. Army Corps of Engineers and Navy Beta tests

- Does the UFP/QAPP work for small projects?
- Will it turn a small RCRA site in to a Superfund site?
- Do the QAPP worksheets obtain the necessary information?
- Does the QAPP development process work?

UFP/QAPP Benefits

- Filling out the worksheets requires the Systematic Approach
  - Forces workgroup to ask and answer the correct questions
  - Deals with sampling and laboratory performance up front
- Completed QAPP contains all the necessary information
  - QA/QC
  - SOPs
  - Data Validation requirements
  - Data Usability
  - Training requirements

UFP/QAPP Benefits

- Field Activities covered
  - Sample custody and handling issues
  - Calibration and maintenance records of field equipment
  - Qualifications of personnel
- Simplifies process and final document
  - Worksheet examples given

Implementation

- Air Force Web Based Training course
  - Designed to be an introduction to QAPPs
  - To be posted Oct 2002 at AFCEE Web University
  - Can serve as a lead into IDQTF Course
- IDQTF short course
  - Will teach how to effectively complete and review QAPPs

UFP/QAPP Status

- Undergoing final revisions
- To be released for stakeholder technical review, Fall 2002

Summary

- The UFP-QAPP was successful in showing the Graded Approach
- UFP-QAPP forces Project Team to institute SPP
- Standardizes the QAPP development process across Federal Facilities and EPA Regions

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